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CEA-3808 - Main South Trunk Sewer - WGK

Project Premise Report

Distribution

CEA - 3808 - Main South Trunk Sewer - WCK Project Premise Report, 3-4-82

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R. L. Wiese - CS7R

MCO 6360490

Monsanto

FROM (NAME—LOCATION—PHONE) D. L. Wasson (4-8247) Corporate Engineering - CS7V

DATE March 4, 1982

cc

SUBJECT CEA 3808 - SOUTH TRUNK SEWER - WGK
APPROVED PROJECT PREMISE REPORT

REFERENCE :

TO : Distribution:

Attached for your use is the Approved Project Premise Report for the subject project.

Don Wasson

nlo
Attachment

MCO 6360491

IN - 10 REV 3 77

APPROVED

PROJECT PREMISE REPORT

CEA 3808

Main South Trunk Sewer - WGK

Monsanto Chemical Intermediates Co.

Approved By:

Don Wasson
D. L. Wasson - CS7V
MCI Engineering Representative

W. C. Engman
W. C. Engman - 1740
Pre-project Board Chairman

R. L. Nelson
R. L. Nelson - 1740
Manufacturing Representative

MCO 6360492

Date: March 4, 1982

CEA-3808 - Main South Trunk Sewer - WGK

Project Premise Report

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MCO 6360493

I. Background and Need for Project

WGK waste water (sanitary, storm, process) flows by gravity southward through the plant sewer systems to two parallel Village of Sauget south trunk sewers, one 24 inch the other 36 inch diameter on Monsanto property. In general, they follow the plant's 5th Street. Two other village sewers serving the residential and industrial areas south and southeast of the plant also empty into the south trunk sewers. The only exceptions to the above are waste water from the sulfuric acid area, parking lot and lab which drain to a village sewer along Monsanto Ave.

The two south trunk sewers, 50 and 36 years old, are in a deteriorated condition. Five sewer boxes have deteriorated needing complete replacement and seven require extensive repair. Complete inspections can not be made since flows can't be stopped.

There are about nineteen Monsanto connections into the two south trunk sewers which complicates metering and monitory activities.

II. Alternatives

1. Do Nothing - This alternative is not viable since continued deterioration will eventually lead to total pluggage and result in flooding and shut down of the plant and other nearby industries.

2. Repair Existing Sewers - Average sewer flows are 4900 gpm of which 4400 is from WGK plant. During heavy rains, flows exceed 12,000 gpm and the two existing sewers cannot handle the full flow. Temporary pumping to free up sections of the sewer for repair appears impractical since experience indicates a few days life for pumps due to the high acidity of the plant effluent.

3. Replace Existing Village Sewers - This alternative is not recommended since the separation of the WGK effluents as in Alternate 4 from the ex-Monsanto industrial and residential flows would reduce Monsanto's regulatory, legal and financial responsibilities.

4. Provide a New Monsanto Trunk Sewer - This is the recommended alternative. It will collect all Monsanto effluents into a single sewer with one connection to the village sewer system simplifying present and future monitoring and reduce regulatory, legal and financial liability to Monsanto.

III. Project Objectives

The objective of this project is to install a new 42 inch diameter, Monsanto owned, VCP reinforced concrete encased trunk sewer to carry all the plant sewer load now carried by the two Sauget Village sewers. Included in the project will be flow monitoring and sampling provisions near the connection to the village sewers just east of Route 3.

A second objective will be to install these facilities with a minimum of interruptions to plant operations.

IV. Description of the Facilities

The new sewer will, in general, be parallel and north of the two existing Village south trunk sewers (see Appendex A). About 1600 lineal feet of 42 inch diameter sewer pipe will be required.

Construction will be of extra strength vitrified clay tile encased in reinforced concrete (CEA A8.2 STD 3). Joints will be made with Furan resin acid proof cement. Sewer boxes will be reinforced concrete full acid resisting acid proof brick lined. Approximately 18 to 20 sewer boxes will be needed, about ten in the main trunk sewer.

A preliminary scope of work includes the following:

Diam	Length, Ft.
42"	1600
24"	30
18"	45
15"	150
12"	100
8"	360

Parshall flume flow measurement and sampling facilities will be provided near the point of discharge into the Sauget Village sewer system. At an anticipated 1.25 ft/1000 ft slope, this sewer at 75% full will flow at 15,000 gpm.

Design and construction will conform generally with CED Master Specification for Yard Chemical Sewers - Clay Pipe A8.2 STD 3.

A cross connection with the two existing Village south trunk sewers at the upstream end will be provided to permit diversion of the village sewer flows into the new Monsanto sewer during repair or replacement of the existing sewer by Sauget Village. On conclusion of this work the cross connection will be closed by the plant with a plug.

V. Permits - The plant will obtain any necessary permits.

VI. Project Strategy - This project will be in-house design with lump-sum union labor construction.

VII. Control of Hazards and Environment

During construction some excavated soil will likely require special handling at Monsanto's cost due to chemical contamination. Excavated soil will be monitored, and when necessary, will be disposed of in accordance with the Resources Conservation and Recovery Act (RCRA) regulations.

VIII. Project Schedule - The A.R. Development Plan prepared by the Pre-project Board has the following milestone dates:

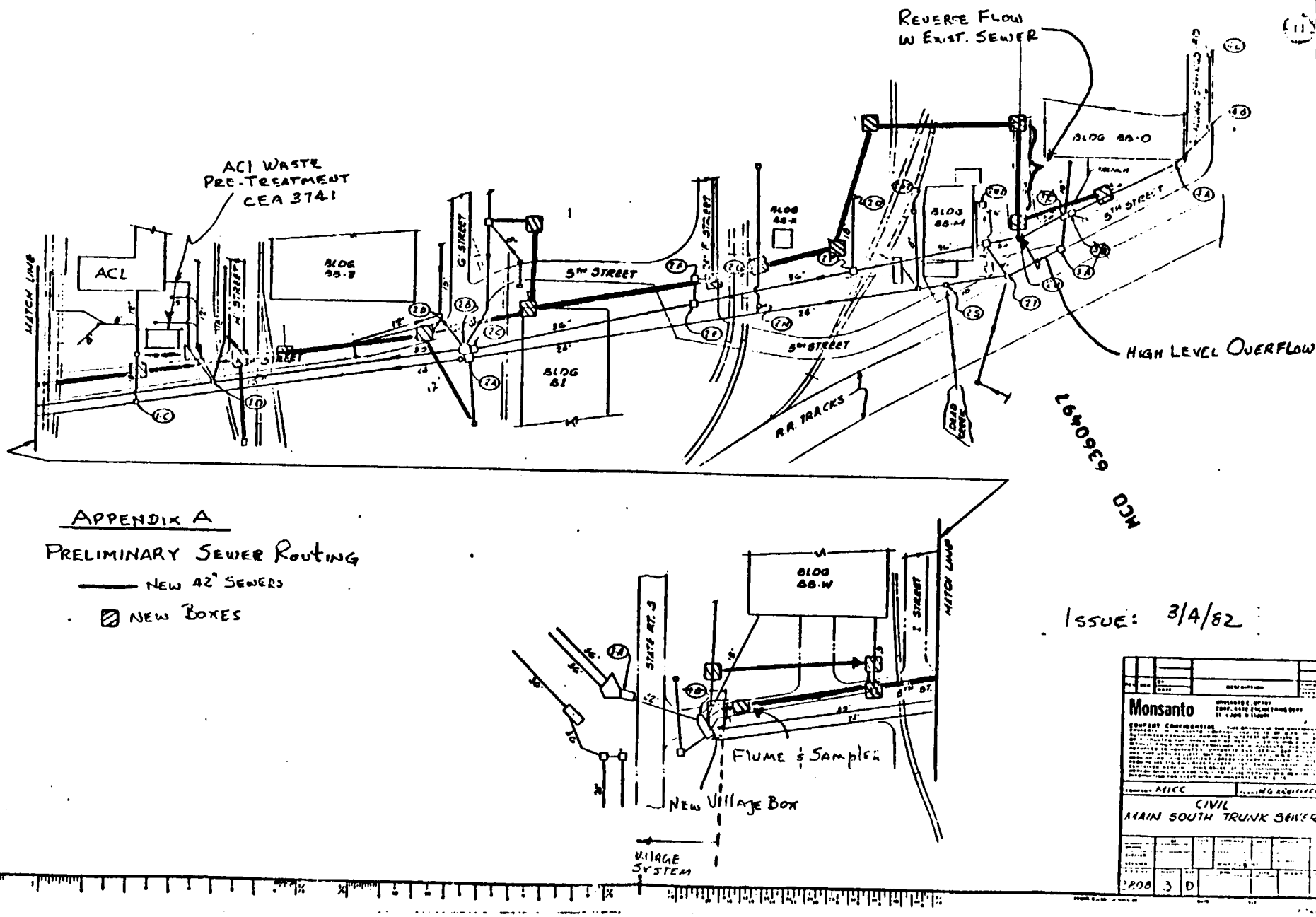
Approved Premise Report	3/1/82
Approved Project Definition Report	5/15/82
Appropriation Request Data Transmittal	7/15/82
Appropriation Request Approval	9/82.

IX. Ex-Project Impacts - This project will not change the volume or composition of the plant discharge nor its ex-project handling. Tie-in to the village sewer will be east of Route 3 at the new village sewer box now being installed. Provision for tie-in of this new sewer is being made in the new village box. Two existing 36 inch village sewers direct the flow from the new village sewer box to the Sauget Treatment Plant for primary treatment. In the future the Sauget Treatment Plant effluent will go to the American Bottoms Regional Treatment Facility expected to be operational in 1986 for secondary treatment.

X. Project Risks - Condition of the two existing village sewers makes it probable that, in some locations, pumping will be required to keep seepage from excavations.

Protective clothing, respirators and shower facilities will be provided by the contractor when deemed necessary by Monsanto's representatives.

MCO 6360496



APPENDIX A

PRELIMINARY SEWER ROUTING

—— NEW 42" SEWERS

▨ NEW BOXES

ISSUE: 3/4/82

Monsanto

CIVIL

MAIN SOUTH TRUNK SEWER

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